

CLAIMS

- Sub 117
- 10008121-110501
- 5 1. A switching amplifier for use in proximity to a tuner that has a control output; comprising:
- processor means for receiving an input signal and for providing an output signal, responsive to an indicator signal, the output signal for use as a switching output signal; and
- 10 indicator signal control means for being coupled to the output of the tuner, providing the indicator signal corresponding to a first frequency when the control output indicates a first condition and a second frequency when the control output indicates a second condition.
- 15 2. The switching amplifier of claim 1, wherein:
- the first condition is a first set of ranges of tuning frequency of the tuner and the second condition is a second set of ranges of tuning frequency of the tuner.
- 20 3. The switching amplifier of claim 2 wherein the tuner is an AM radio tuner.
4. The switching amplifier of claim 1, wherein the output signal is pulse width modulated.
- 25 5. The switching amplifier of claim 1, wherein the input signal is digital.

6. The switching amplifier of claim 5, wherein the input means comprises a sample rate converter for converting the input signal to a data rate responsive to the indicator signal.

5 7. The switching amplifier of claim 1, wherein the input signal is analog and wherein the input means comprises an analog to digital converter for converting the input signal to a data rate responsive to the indicator signal.

10 8. The switching amplifier of claim 1, wherein the input signal is from a CD player.

15 9. A switching amplifier for use in proximity to a tuner; comprising:
processor means for receiving an input signal from the tuner and for providing an output signal at a switching frequency that is responsive to an indicator signal which indicates the switching frequency; and
interference detection means for changing the switching frequency that is indicated by the indicator signal if the input signal has interference from the switching output signal.

20 10. A switching amplifier for use in proximity to a tuner for a first frequency band, comprising;
an amplifier that provides a digital signal at a frequency indicated by an indicator signal, wherein the frequency has harmonics in the first
25 frequency band; and

indicator signal control means, coupled to the amplifier, for changing the frequency indicated by the indicator signal if the digital signal causes interference with a frequency selected by the tuner.

- 5 (11) The switching amplifier of claim 10, wherein the indicator means is further characterized as disabling the switching amplifier in response to the tuner indicating that it is in one of a seek mode or a scan mode.

- 10 12. The switching amplifier of claim 10, wherein the indicator control means is further characterized as receiving information as to the frequency being selected by the tuner.

- 15 13. The switching amplifier of claim 12, wherein the indicator control means is further characterized as providing the indicator signal indicating a first frequency when the frequency being tuned is within a first plurality of ranges and a second frequency when the frequency being tuned is within a second plurality of ranges.

- 20 14. The switching amplifier of claim 10, wherein the indicator control means is further characterized as changing the frequency indicated by the indicator signal if the input signal has interference from the switching output signal.

- 25 15. The switching amplifier of claim 10, wherein the indicator control means is further characterized as changing the frequency indicated by the indicator signal in response to an indicator control signal from the tuner.

16. A method of operating a switching amplifier in proximity to a tuner, comprising:

providing an output signal in response to an input signal from the tuner,
the output signal useful for generating a switching signal at a
frequency responsive to an indicator signal; and
responding to a tuner frequency of the tuner by changing the frequency of
the switching signal in response to the indicator signal if the
switching signal causes interference with the input signal.

17. The method of claim 16, wherein the step of responding further comprises:
changing the frequency of the switching signal to a predetermined
frequency in response to the tuner frequency being within
predetermined ranges of frequencies determined to not cause
interference at the tuner frequency.

18. The method of claim 16, wherein the step of responding further comprises:
changing the frequency of the switching signal to a predetermined
frequency in response to a control signal from the tuner.

19. The method of claim 16, wherein the step of responding further comprises:
changing the frequency of the switching signal to a predetermined
frequency in response to detecting that interference to the input
signal has occurred.

20. The method of claim 16, wherein the step of responding further comprises:

using the indicator signal to set the frequency of the switching signal to a first frequency when the tuner frequency is within first ranges of frequencies and at a second frequency when the tuner is within second ranges of frequencies.

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21. The method of claim 20, wherein the step of responding further comprises: using the indicator signal to set the frequency of the switching signal to a third frequency when the tuner frequency is within third ranges of frequencies.

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22. The method of claim 16, wherein the step of responding further comprises: calculating a desired frequency of the switching signal based on the tuner frequency; and providing the indicator signal to indicate the desired frequency.

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